UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/693,838	10/24/2003	Galen C. Hunt	MS1-1778US	1011

22801 7590 05/12/2011

LEE & HAYES, PLLC
601 W. RIVERSIDE AVENUE
SUITE 1400
SPOKANE, WA 99201

EXAMINER	
BATES, KEVIN T	

ART UNIT	PAPER NUMBER
2456	

NOTIFICATION DATE	DELIVERY MODE
05/12/2011	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

lhptoms@leehayes.com

Office Action Summary	Application No.	Applicant(s)	
	10/693,838	HUNT ET AL.	
	Examiner	Art Unit	
	KEVIN BATES	2456	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *16 December 2010*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,4-6,8-11,13,15-17,20-27,30-41,44 and 48* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,4-6,8-11,13,15-17,20-27,30-41,44 and 48* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *See Continuation Sheet*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Continuation of Attachment(s) 3). Information Disclosure Statement(s) (PTO/SB/08), Paper No(s)/Mail Date :10-5-2010, 12-1-2010, 12-16-2010, 2-23-2011, 4-29-2010.

Response to Amendment

This Office Action is in response to a communication made on December 16, 2010.

The Information Disclosure Statements received October 5, 2010, December 1, 2010, December 16, 2010, February 23, 2011, and April 29, 2011 have been considered.

Claims 2-3, 7, 12, 14, 18-19, 28, 29, 42, 43, and 45-47 have been cancelled.

Claims 1, 8-9, 17, 25, 31, 34-36, 40, and 48 are currently amended.

Claims 1, 4-6, 8-11, 13, 15-17, 20-27, 30-41, 44, and 48 are currently pending.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 17 and 20-24 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claim 17 is directed toward a plurality of instructions stored on a computer readable storage media. The computer readable storage media is defined in the instant specification in an open-ended, not limiting fashion. *See* p 118 – 119. The Office has asserted that the broadest reasonable interpretation of a computer readable medium or a computer readable storage medium includes both transitory and non-transitory, unless explicitly defined otherwise. In this case, the storage media has an open-ended definition, thus includes transitory mediums in its possible embodiments. Claims

directed to software stored on transitory mediums are not includes in one of the four statutory classes. As result, Claim 17 is directed toward non-statutory subject matter.

Claims 20-24 are rejected under the same rationale as claim 17.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 34 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 34 includes the limitation "requirements of the environment that must be satisfied by the application in order for the application to be run in the environment." Their appears to be a logical problem with this limitation. It is unclear from the claim interpretation in light of the specification as to how a requirement on the environment can be satisfied by the application. The application is not part of the environment, it only runs on the application. If there is a requirement for the environment to behave in a certain way, that is not a requirement for search features of the environment, so those particular requirements cannot be satisfied by the application. For the purposes of further prosecution, this limitation is going to be interpreted as the requirements being on the environment, and the environment must satisfy them to allow the application to run on the environment.

Claims 25-30 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

"A rejection under § 112, ¶ 2 may be appropriate in the following situations when examining means-plus-function claim limitations under § 112, ¶ 6:

(1) when it is unclear whether a claim limitation invokes § 112, ¶ 6;

(2) when § 112, ¶ 6 is invoked and there is no disclosure or there is insufficient disclosure of structure, material, or acts for performing the claimed function; and/or

(3) when § 112, ¶ 6 is invoked and the supporting disclosure fails to clearly link or associate the disclosed structure, material, or acts to the claimed function."

See *Supplemental Examination Guidelines for Determining Compliance with 35 USC §112 and for Treatment of related Issues in Patent Applications*, 76 FR 7162, 7168 (Feb. 9, 2011).

Regarding claim 25, the claim contains at least one limitation that invokes §112 ¶6, while failing to provide sufficient disclosure of structure, material, or acts for performing the claimed function. *See Vas-Cath, Inc. v. Mahurkar*, 935 F.2d 1555, 1565, (Fed. Cir. 1991); *see also In re Donaldson Co.*, 16 F.3d 1189, 1195 (Fed. Cir. 1994) (*en banc*). Thus, claim 25 is rejected under §112 ¶2.

Claims 26-30 are dependent on claim 25 and rejected under the same rationale.

Applicant is required to:

(a) Amend the claim so that the claim limitation will no longer be a means (or step, or non-structure terms) plus function limitation under 35 U.S.C. 112, sixth paragraph; or

(b) Amend the written description of the specification such that it expressly recites what structure, material, or acts perform the claimed function without introducing any new matter (35 U.S.C. 132(a)).

If applicant is of the opinion that the written description of the specification already implicitly or inherently discloses the corresponding structure, material, or acts so that one of ordinary skill in the art would recognize what structure, material, or acts perform the claimed function, applicant is required to clarify the record by either:

(a) Amending the written description of the specification such that it expressly recites the corresponding structure, material, or acts for performing the claimed function and clearly links or associates the structure, material, or acts to the claimed function, without introducing any new matter (35 U.S.C. 132(a)); or

(b) Stating on the record what the corresponding structure, material, or acts, which are implicitly or inherently set forth in the written description of the specification, perform the claimed function. For more information, see 37 CFR 1.75(d) and MPEP §§ 608.01(o) and 2181.

Rationale for invoking §112 6¶

Examiners will apply § 112, ¶ 6 to a claim limitation that meets the following conditions:

(1) The claim limitation uses the phrase "means for" or "step for" or **a non-structural term that does not have a structural modifier**;

(2) the phrase "means for" or "step for" or the non-structural term recited in the claim is modified by functional language; and

(3) the phrase "means for" or "step for" or **the non-structural term** recited in the claim is not modified by sufficient structure, material, or acts for achieving the specified function.

This modifies the 3-prong analysis in MPEP § 2181, which will be revised in due course. *See Supplemental Examination*, 76 FR at 7167.

Regarding claim 26, the claim recites, *inter alia*, an apparatus comprising, various means plus function limitations. Each of the "means for" limitations is not modified by any structural limitations, nor claim modify the invention to include sufficient structure, material, or acts for achieving any of the specified functions. As result, each of the means invoke §112 ¶6.

Rationale for determining there is insufficient disclosure

For a computer-implemented means-plus-function claim limitation that invokes 35 U.S.C. 112, sixth paragraph, the corresponding structure is required to be more than simply a general purpose computer or microprocessor. *See Aristocrat*, 521 F.3d 1328, 1333, (Fed. Cir. 2008). The corresponding structure for a computer-implemented function must include the algorithm as well as the general purpose computer or microprocessor. *See WMS Gaming, Inc.*, 184 F.3d 1339 (Fed. Cir. 1999). The written

description of the specification must at least disclose the algorithm that transforms the general purpose microprocessor to a special purpose computer programmed to perform the disclosed algorithm that performs the claimed function. *See Aristocrat*, 521 F.3d at 1338. Applicant may express the algorithm in any understandable terms including as a mathematical formula, in prose, in a flow chart, or in any other manner that provides sufficient structure. *See Finisar Corp.*, 523 F.3d 1323, 1340, (Fed. Cir. 2008).

A rejection under 35 U.S.C. 112, second paragraph, is appropriate if the written description of the specification discloses no corresponding algorithm. *See Aristocrat*, 521 F.3d at 1337-38. For example, merely referencing to a general purpose computer with appropriate programming without providing any detailed explanation of the appropriate programming, *See Id.* at 1334, or simply reciting software without providing some detail about the means to accomplish the function, would not be an adequate disclosure of the corresponding structure to satisfy the requirements of 35 U.S.C. §112, second paragraph, even when one of ordinary skill in the art is capable of writing the software to convert a general purpose computer to a special purpose computer to perform the claimed function. *See Finisar*, 523 F.3d at 1340-41.

Regarding claim 26, the specification provides structure for implementing the functional limitations, however that structure is limited to general purpose computers. *See* pp. 118. The applicant is reminded that general purpose computers is not sufficient to provide the required structural disclosure, *Aristocrat*, 521 F.3d at 1338, and that indefiniteness analysis does not turn on the name of the structure that does the processing. *See Net MoneyIN, Inc. v. VergiSign, Inc.*, 545 F.3d 1359, 1366-67 (Fed.

Cir. 2008). The applicant's specification fails to provide any detailed explanation of the algorithm that transforms the general purpose microprocessor to a special purpose computer programmed to perform the disclosed algorithm that performs the claimed function. The applicant is reminded that the requirement for the disclosure of an algorithm can be avoided if one of ordinary skill in the art is capable of writing the software to convert a general purpose computer to a special purpose computer to perform the claimed function is unpersuasive because the understanding of one skilled in the art does not relieve the patentee of the duty to disclose sufficient structure to support means-plus-function claim terms. The specification must explicitly disclose the algorithm for performing the claimed function, and simply reciting the claimed function in the specification will not be a sufficient disclosure for an algorithm which, by definition, must contain a sequence of steps. See *Supplemental Examination Guidelines*, 76 FR at 7168. As result, the claim 25 has failed the §112 ¶6 requirement of disclosing the corresponding structure that performs the functional limitations.

Response to Arguments

Applicant's arguments filed December 16, 2010 have been fully considered but they are not persuasive.

The applicant argues that the system module does not include one or more requirements of the system that must be satisfied by an environment of which the system is to be deployed. *See* remarks, p 16. More particularly, that Hayball teaches only hardware and topology information in its model, but does not disclose looking at

requirements such as performance ability and bandwidth ability of that topology. *See id.* at 16-17.

The examiner disagrees with the applicant's description of the scope of these requirements on the environment. While requirements on the environment within the scope may include elements such as processor speed and network bandwidth, the idea of a "requirement on the environment" is much broader than just performance or ability. The specification provides only a broad teaching of what a restriction on the environment could be. See Specification, p. 16-17.

Hayball teaches a system for providing a model of a particular environment in current existence. See Col. 5, ll. 51 - 61. That model can be updated to include additional future developments of the system. See Col. 6, ll. 61 - 66. Hayball also teaches that once the system is designed, it can be used to implement the new system. See Col. 7, ll. 28 - 33. As part of that model and management ability, once the future model is designed, it can be used to validate that the actual environment has been setup as per the requirements of the model. See Col. 7, ll. 33 - 40; see also Col. 7, ll. 64 - 68. Hayball's requirements of the system involve ensure actual hardware has been installed as per the description in the future MIB model. See id. However, since the applicant's "requirements on the environment" provides an open-ended definition as to what types of requirements could be considered within the applicant's system. A requirement that a particular hardware device is installed and exists in the system is such a requirement that would fit within the scope of the claim. Hayball teaches that the

requirements of the model are validated against the actual network and enforced while designing the system and before deployment. See Col. 7, ll. 48 – 68.

The applicant further argues that the installation of hardware constitutes deploying the system and as result the validation occurs in Hayball during deployment and not before the deployment. *See* remarks, pg 20-21.

The examiner disagrees, the environment and the system have been defined by the claimed and the applicant has separate. The claim requires that the model validates that the environment to which the application is going to be deployed satisfies the constraints. Hayball teaches that the hardware that exists in the environment meets the requirements of the future model before the upgrade can continue. See Col. 7, ll. 50 - 57. More particularly, Hayball teaches first look at the hardware, and if that is okay then "the upgrade continues". *See id.*

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1, 4-6, 8-11, 13, 15-17, 20-27, 30-41, 44, and 48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hayball (6308174) in view of Graupner (7035930).

Regarding claims 1 and 25, Hayball teaches a method comprising:

using, by one or more computing devices, a system definition model in a development phase of a system to design the system (Col. 6, lines 58 – 66), the system definition model including one or more requirements of the system that must be satisfied by an environment of which the system is to be deployed in order for the system to run in the environment (Col. 7, lines 28 – 42; lines 61 – 67);

subsequently using, by the one or more computing devices, the system definition model in a deployment phase of the system to deploy the system on at least one of the one or more computing devices (Col. 7, lines 8 – 13);

after deployment of the system, calling, by the one or more computing devices, one or more functions defined within the system definition model during a management phase of the system to manage the system deployed on the at least one of the one or more computing devices (Col. 11, line 66 – Col. 12, line 14; Col. 11, lines 57 – 65); and

validating the environment, by the one or more computing devices, by comparing the one or more requirements of the system with the environment of which the system is to be deployed to determine whether the one or more requirements of the system are satisfied by the environment, during at least the design of the system (Col. 7, lines 28 – 42; lines 61 – 67).

Hayball teaches that the system works in all communication networks, but does not explicitly indicate that the communication network is an application network.

Graupner teaches a system for modeling and estimating a computer network which further discloses that in addition to the hardware modeling, the system can further model and deploy software components to the network (Col. 4, lines 57 – 67).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use Graupner's model layering teaching in Hayball's teaching to allow further modeling and managing of more than just the MIB's of the computer network to allow more complete network future planning such as data center needs as shown in Graupner.

Regarding claims 17 and 31, Hayball teaches one or more computer readable storage media having stored thereon a plurality of instructions that when executed by a processor, cause the processor to:

use a system definition model in a development phase of a system to design the system (Col. 6, lines 58 – 66);

determine that the environment in which the system is to be deployed satisfies the constraints on the configuration of their system prior to deploying the system (Col. 7, lines 28 – 42; lines 61 – 67);

subsequently use the system definition model in a deployment phase of the system to deploy the system on one or more computing devices (Col. 7, lines 8 – 13); and

after deployment of the system, invoking one or more functions defined within use-the system definition model in a management phase of the system to manage the

system deployed on the one or more computing devices (Col. 11, line 66 – Col. 12, line 14; Col. 11, lines 57 – 65).

Hayball does not explicitly indicate wherein the system is an application, the system definition model includes a representation of an environment in which the application is to be deployed, and the using includes binding the application to the representation in the system definition model, the representation including definitions for hosts of the environment of their application components and constraints on the configuration of their applications.

Graupner teaches a system for modeling and estimating a computer network which further discloses that in addition to the hardware modeling, the system can further model and deploy software components to the network (Col. 4, lines 57 – 67) including a representation of an environment in which the application is to be deployed, and the using includes binding the application to the representation in the system definition model (Col. 4, lines 26 – 29; Col. 8, lines 4 – 17), the representation including definitions for hosts of the environment of their application components and constraints on the configuration of their applications (Col. 3, lines 38 – 60).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use Graupner's model layering teaching in Hayball's teaching to allow further modeling and managing of more than just the MIB's of the computer network to allow more complete network future planning such as data center needs as shown in Graupner.

Regarding claim 4, Hayball teaches a method as recited in claim 1; using knowledge obtained during management of the system to design a subsequent version of the system (Col. 6, lines 20 – 34).

Regarding claims 5, 20, 26, and 32, Hayball teaches a method as recited in claims 1, 17, 25, and 31, wherein the system definition model includes knowledge describing how to deploy the system on the one or more computing devices (Col. 7, lines 8 – 13).

Regarding claims 6, 21, 27, 33, and 44, Hayball teaches a method as recited in claims 1, 17, 25, and 31, wherein the system definition model includes knowledge describing how to deploy the system on multiple different computing devices, and wherein the knowledge includes different knowledge describing how to deploy the system on each of the multiple different computing devices (Col. 7, lines 8 – 13; lines 28 – 42).

Regarding claim 22, Hayball teaches a method as recited in claim 17, wherein the system definition model includes constraints that must be satisfied by the one or more computing devices in order for the system to be run on the one or more computing devices (Col. 7, lines 28 – 42).

Regarding claim 23, Hayball teaches a method as recited in claim 22, wherein the system definition model can be used to check whether the constraints are satisfied by the one or more computing devices during design of the system (Col. 7, lines 28 – 42).

Regarding claim 34, Hayball teaches a method as recited in claim 31, wherein the system definition model further includes requirements of the environment that must be satisfied by the application in order for the system to be run on the one or more computing devices (Col. 7, lines 28 – 42; lines 61 – 67), the plurality of executable instructions to further perform operations comprising using the requirements of the environment during runtime while the application is being managed to validate the changes to the application during runtime (Col. 8, ll. 30 – 50).

Regarding claims 8 and 36, Hayball teaches a method as recited in claims 7 and 34, validating the system by comparing one or more requirements of the environment with the system to determine whether the one or more requirements of the environment are satisfied by the system during at least the during design of the system (Col. 7, lines 28 – 42; lines 61 – 67).

Regarding claim 9 and 35, Hayball teaches a method as recited in claims 7 and 34; wherein validating the environment compares the one or more requirements of the system with the environment during both a design of the system prior to the using the system definition model to deploy the system and during a management of the system. (Col. 7, lines 28 – 42; lines 61 – 67).

Regarding claims 10, 24, 30, and 37, Hayball teaches a method as recited in claims 1, 17, 25, and 31, wherein the system definition model includes knowledge describing how to manage the system after deployment of the system (Col. 11, line 66 – Col. 12, line 13).

Regarding claim 11, Hayball teaches a method as recited in claim 1, further comprising: during management of the system, using a flow to automatically propagate a configuration change to the system (Col. 11, lines 57-65).

Regarding claim 15, Hayball teaches a method as recited in claim 1, wherein a plurality of environments are deployed on the one or more computing devices, the method further comprising: using a plurality of different system definition models to design each of the plurality of environments, wherein each of the plurality of environments is associated with one of the plurality of different system definition models; using, for each environment, the associated one of the plurality of different system definition models to deploy the environment; and after deployment, using, for each environment, the associated one of the plurality of different system definition models to manage the environment (Col. 7, lines 28 – 47).

Regarding claim 16, Hayball teaches a method as recited in claim 15, wherein each of the plurality of environments is layered, and wherein each of the plurality of environments serves as environment to one other of the plurality of environments or to the system (Col. 10, lines 2 – 10).

Regarding claim 38, Hayball teaches a system as recited in claim 31, wherein the system further comprises:

another system definition model applicable across a lifecycle of the environment, wherein the lifecycle of the environment includes design of the environment, deployment of the environment, and management of the environment; and

wherein the schema is further to dictate how functional operations within the other system definition model are to be specified (Col. 9, lines 17 – 23; Col. 7, lines 1 – 13).

Regarding claim 39, Hayball teaches a system as recited in claim 38, wherein the system definition model for the environment is derived through examination of the configuration of one or more computing devices (Col. 5, lines 51-67).

Regarding claim 40, Hayball teaches a system as recited in claim 38, wherein the system definition model includes constraints that must be satisfied by the environment in order for the application to be run on the environment, and wherein the other system definition model includes other constraints that must be satisfied by the application in order for the application to be run on the environment (Col. 7, lines 1 – 4; lines 28 – 47).

Regarding claim 41, Hayball teaches a system as recited in claim 38, wherein the system further comprises: an additional system definition model applicable across a lifecycle of an additional environment, wherein the lifecycle of the additional environment includes design of the additional environment, deployment of the additional environment, and management of the additional environment; wherein the additional environment is layered below the environment; and wherein the schema is further to dictate how functional operations within the additional system definition model are to be specified (Col. 9, lines 17 – 23; Col. 7, lines 1 – 13).

Regarding claim 48, Hayball teaches using another system definition model to design an environment, wherein the system is deployed to the environment on the one or more computing devices;

subsequently using the other system definition model to deploy the environment one the one or more computing devices; and

after deployment of the environment, using the other system definition model to manage the environment deployed on the one or more computing devices;

wherein the system definition model includes constraints that must be satisfied by the environment in order for the system to be run on the one or more computing devices and wherein the system definition model includes constraints that must be satisfied by the system in order for the system to be run on one or more computing devices (Col. 6, line 58 – Col. 7, line 13).

Regarding claim 13, Hayball teaches a method as recited in claim 48, wherein the system definition model for the environment is derived through examination of the configuration of one or more computing devices (Col. 5, lines 51-67).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KEVIN BATES whose telephone number is (571)272-3980. The examiner can normally be reached on M-F 8 am - 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rupal Dharia can be reached on (571) 272-3880. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/KEVIN BATES/
Primary Examiner, Art Unit 2456